



TRANSITIONING FROM CONSTRUCTION TO OPERATIONS

# → 2012-2013 YEAR IN REVIEW

AS OF THE YEAR ENDED MARCH 31, 2013



**WUSKWATIM**  
Power Limited Partnership





# Year in REVIEW

for the year ended March 31, 2013

## TRANSITIONING





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Power Limited Partnership




# FROM CONSTRUCTION TO OPERATIONS

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### WPLP General Partner Directors (L to R)

- Joanne Flynn (Manitoba Hydro)
- Darren Rainkie (Manitoba Hydro)
- Nancy Willms (Manitoba Hydro)
- Marcel Moody (Nisichawayasihk Cree Nation)
- Jimmy Hunter-Spence (Nisichawayasihk Cree Nation)
- Ken Adams (Manitoba Hydro)

**Wuskwatim Power Limited Partnership (WPLP)**, a legal entity involving Manitoba Hydro and Nisichawayasihk Cree Nation (NCN), through its wholly-owned Taskinigahp Power Corporation, has developed the Wuskwatim Generating Station on the Burntwood River in northern Manitoba. It is the first time in Manitoba and Canada that a First Nation and an electric utility have entered into a formal equity partnership to develop a hydroelectric project. Manitoba Hydro provided construction services and continues to provide management services to WPLP in accordance with the Project Development Agreement (PDA) signed in June 2006.

Wuskwatim is the first time in Manitoba and Canada that a First Nation and an electric utility have entered into a formal equity partnership to develop a hydroelectric project.



# Message from the Chair

## **Wuskwatim Power Limited Partnership (WPLP) is pleased to present its seventh Year In Review for the fiscal year 2012-2013.**

The fiscal year 2012-2013 has closed with the successful transition of the Wuskwatim Project from the construction phase to a fully operating generating station. This report highlights both the wrap-up construction work and early operations activity.

### **Construction Activity Winds Up**

With all structures completed by the beginning of the year, the major onsite construction focus this year was mostly inside the powerhouse to complete installation of the remaining electrical, mechanical, HVAC, communications, monitoring, and safety equipment necessary to make the plant operational. The turbine generators at the heart of the plant's operations were commissioned and went online at approximate two-month intervals in June, August and October.

Outside the plant, work focused on decommissioning various parts of the construction site and performing work associated with restoring those sites to a natural state. This included decommissioning most of the construction camp except for a few units to provide accommodation for operations staff. Overall site restoration work will continue over the next two summers.

Total construction-related wages earned at the project site from the start of construction in August 2006 to November 2012 were over \$215 million with nearly 65 percent of these associated with direct Manitoba employment. WPLP also spent more than \$167 million on goods and services purchased from Northern

Manitoba Aboriginal businesses, including almost \$9.6 million during the past year. Expenditures through several contracts with entities owned by Nisichawayasihk Cree Nation in 2012-2013 totalled \$9.2 million.

Maintaining Wuskwatim as one of the safest construction sites in Manitoba has been a priority from the beginning of the project. All employees were required to take a comprehensive site-specific safety orientation upon hire. Active participation by all involved in the project assisted in creating safe working conditions.

Throughout construction, Nisichawayasihk Cree Nation provided and managed cross-cultural training workshops, cultural ceremonies and onsite counselling services, which were available to all employees. The workshops and ceremonies expressed respect for both the environment and the local culture. These services concluded in October.

The comprehensive environmental protection program continued throughout the year and details and results are reported in the WPLP Wuskwatim Monitoring Overview 2012-2013 available at [www.wuskwatim.ca](http://www.wuskwatim.ca).

### **Operations Phase Begins**

The June start-up of the Unit 1 turbine generator to produce first power marked the beginning of Wuskwatim Generating Station operations. With all three units online by early October, the station was in full operation. The station now has a staff complement of 22 personnel, which includes four NCN Citizens working in technical and office positions. All staff work on an eight-days-on, six-days-off work schedule. As part of the transition from

construction, initial operations activities have focused on documenting station equipment and developing work management systems and procedures.

Operations requires a number of support services such as catering and security that have been identified as a potential direct-negotiated contract with an NCN business.

The environmental protection program, in place since before construction began, will continue although construction-related monitoring is complete. Results and details are reported in the WPLP Wuskwatim Monitoring Overview 2012-2013 available online at [www.wuskwatim.ca](http://www.wuskwatim.ca).

Manitoba Hydro and NCN have developed an access management plan that defines the use and control of the access road to address plant operations requirements. This *Access Road Restrictions* brochure is also available at [www.wuskwatim.ca](http://www.wuskwatim.ca)

Due to Wuskwatim's remote location, on-site accommodations are required to house operations staff. Parts of the construction camp are currently being used for this, however plans for a staff house are underway.

On behalf of the board I want to extend our thanks and appreciation to the many companies, organizations and individuals who have contributed to the successful construction of the Wuskwatim Generating Station and have helped to bring this complex project to completion.

Sincerely,



Ken R. F. Adams, P. Eng.  
Chair of the general partner of Wuskwatim Power Limited Partnership (5022649 Manitoba Ltd.)



# Introduction and Background



Photo: Mike Deal, Winnipeg Free Press



Nisichawayasihk Cree Nation and Manitoba Hydro spent nearly a decade discussing, planning and undertaking the environmental studies and regulatory processes for the 200-megawatt Wuskwatim Generation Project now completed in NCN's traditional territory on the Burntwood River downstream of Wuskwatim Lake at Taskinigup Falls.

The Wuskwatim Project Development Agreement (PDA) governing all aspects of the project, was approved by NCN Citizens and signed by senior Manitoba Hydro officials and NCN's Chief and Council in June 2006. Construction started in August that year. The agreement provided the option for NCN to own up to one-third of the Wuskwatim Generating Station through its wholly-owned Taskinigahp Power Corporation. At first power, in June 2012, NCN confirmed its intent to maintain its 33 percent ownership position in the Wuskwatim Project.

Wuskwatim Power Limited Partnership (WPLP), involving Nisichawayasihk Cree Nation and

Manitoba Hydro, was created to jointly develop, operate and maintain the Wuskwatim station. Its Board of Directors, consisting of two NCN and four Manitoba Hydro representatives, governs a general partner, 5022649 Manitoba Ltd., a wholly owned Manitoba Hydro subsidiary, to carry out WPLP's business affairs. Pursuant to the PDA, WPLP contracted Manitoba Hydro to construct, manage, operate and maintain the Wuskwatim Generating Station.

Manitoba has a large self-renewing supply of waterpower with many hydroelectric generating stations developed to provide electrical energy for its citizens. Wuskwatim, which became fully operational in October 2012 to produce clean, renewable hydroelectric power, is the first generating station project to be built in Manitoba in nearly two decades. It is adding to Manitoba's generation assets and helping to meet both Manitoba's future domestic needs as well as provide energy to export customers.



# Year In Review



The 2012-2013 fiscal year marks both the completion of the final phase of construction and the beginning of Wuskwatim operations. This significant transition from construction to full power generation signifies the physical realization of the Wuskwatim project.

As such, this *Year in Review* includes two sections: Construction and Operations. It covers construction undertaken in the past fiscal year (including some summaries of activity over the full construction period) and reporting on the early stages of operations.

## ■ CONSTRUCTION

In the previous six years the *Year in Review* reports outlined the significant year-to-year physical changes as the project quickly progressed. Significant milestones over that period included access road and camp construction, cofferdam construction, riverbed preparation, concrete structures construction, earthen dam construction, cofferdam removal, station outfitting with mechanical, electrical and communication equipment, safety equipment installations and turbine generator installations.

With most construction activity having moved inside the station last fiscal year for equipment installation, the major onsite construction focus this year was to complete installation of the remaining electrical, mechanical, HVAC, communications, monitoring, and safety

equipment and their supporting cabling, piping and ductwork necessary to make the plant operational.

The three turbine generators at the heart of the plant's operations all underwent commissioning and went online between June and October.

Outside the plant, the major in-stream activity was removal of the rock plug in summer 2012 where Wuskwatim Lake flows into the Burntwood River. The plug had been left as a precaution to slow flows until the structural integrity of the concrete structures and dam were proven.

Work outside the plant focused on decommissioning the construction site. This included the construction camp, with the exception of units to accommodate operation staff and recreation facilities. Water and waste-water treatment facilities will also remain. Over the next two summers further remediation work will take place in support of restoring the site to a natural state.

As of March 31, Generation project costs totalled \$1.3 billion.

With most construction work at the beginning of the fiscal year focused on completing equipment installations and testing in anticipation of generating station start-up, construction employment declined throughout the year.

Since this fiscal year saw the overall completion of construction, an overall profile of employment

from project start to December 31 shows:

- 2 859 person-years\* of employment – of this, 944 person-years or 33 percent represent northern Manitoba Aboriginal employment
- 6 043 total hires – of this 3 945 or 65 percent were Manitobans. There were a total of 2 247 or 37 percent Aboriginal hires – of this, 650 or 11 percent of total hires were NCN Citizens.

The Wuskwatim project pioneered a cross-cultural program delivered under contract by NCN to demonstrate respect for Aboriginal traditions. Site ceremonies were held at key construction milestones to help mitigate effects of the project on culture and heritage and to demonstrate respect for the land. Five ceremonies were held in 2012 including a three-day event to mark Wuskwatim completion and celebrate first power. A total of 40 ceremonies were held since the project began.

The program also included a cross-cultural-awareness training component designed to help workers integrate into the construction workforce and which shared Aboriginal traditions with other workers. Since the start of construction, the program delivered 104 cross-cultural training sessions and 4 supervisory sessions involving 1 574 participants. Counselling services were also available to help individual workers with workplace or personal challenges. NCN's contract to provide the cross-cultural program concluded in October 2012.

\* A person-year of employment is defined as one full-time job for one year. This typically represents about 2 000 hours of work. Person-years data is as of Nov 30, 2012





Environmental monitoring and management programs are being conducted in accordance with monitoring and management plans approved by provincial and federal regulatory agencies. *Ethinesewin*, the traditional knowledge and collective wisdom of the Nisichawayasihk Citizens, along with conventional Western scientific analysis, continued to be used equally for project monitoring activities. Monitoring programs began before construction started, continued throughout construction, and will be maintained into project operation. In the area of environmental mitigation, fish habitat compensation projects continued in the project area during the 2012-2013 year.

A comprehensive environmental-protection program continued this year and included environmental protection plans and environmental, social and economic monitoring plans. Environmental protection plans provide measures to protect the environment, minimize adverse effects from construction activities and for decommissioning and restoring the Wuskwatim site after construction.

Following is a summary of achievements during 2012-2013.

### ELECTRICAL AND MECHANICAL

With all structures completed by the beginning of the year, the major onsite construction focus this year remained inside the powerhouse to complete installation of the remaining electrical, mechanical, HVAC, communications, monitoring, and safety equipment and their supporting cabling, piping and ductwork installations necessary to make the plant operational.

### TURBINES AND GENERATORS

Three 68.5-megawatt turbine generators are at the heart of station operations. The installation process and sequence started in 2010 and continued through last fiscal year, beginning with Unit 1, followed by Unit 3 and concluding with Unit 2. With the target date for first power in the first quarter of the 2012-2013 fiscal year, the construction focus was to finalize, fine-tune, test and commission the generators.

The first generator (Unit 1) went online June 22, 2012, followed by Unit 3 August 22 and Unit 2 on October 6. Units 2 and 3 went into service about one month earlier than originally expected.

### INTAKE GUIDES, GATES AND HOISTS

Following gate and hoist installations and testing in 2011, minor deficiencies were addressed and "wet commissioning" tests were completed in spring 2012 before first power in June.

### SERVICE BAY / INTAKE / POWERHOUSE

Some miscellaneous work related to the service bay/intake/powerhouse building envelope was addressed in summer 2012.

### ELEVATORS

The elevators were completed and commissioned in summer 2012.

### CONSTRUCTION CAMP

With construction complete, most of the construction camp was decommissioned and the focus is now on restoring the site to a more natural state.

A few dorms with a total capacity of 85 people are being retained to serve as a staff house until a permanent structure is built. The former restaurant/lounge building has been remodelled to serve as the new kitchen facility.

### MAJOR CONTRACTS

Over the life of the project, 30 major contracts were required as part of construction. With the station now operating, virtually all work associated with construction contracts was completed this fiscal year.

NCN fulfilled 11 direct-negotiated contracts over the life of the project valued at about \$147 million with four contracts extending to late 2012.





## PROJECT MONITORING

Some monitoring programs that began before construction are ongoing and will continue now that the station is operating. Manitoba Hydro, acting as management-services provider, with participation in some areas by Nisichawayasihk Cree Nation, conducted the following key environmental activities during this past year:

- Assessing benthic invertebrates
- Mapping invasive plant species (weeds) around the construction site
- Planting aquatic vegetation to enhance fish habitat
- Completing soil bioengineering to stabilize shorelines at selected sites on Wuskwatim Lake
- Planting white spruce and jack pine seedlings as part of rehabilitation efforts
- Monitoring turbidity, sediment, bed load and erosion during in-water construction and into generating station operation
- Collecting water samples from the Burntwood River to measure water quality
- Conducting archeological monitoring along the shore of the Wuskwatim forebay
- Carrying out *Ethniseewin* monitoring, by NCN, at the Project site and surrounding areas.

With construction completed, monitoring activities specific to project construction and

related to riverbed disturbances with potential to release sediment into the river will no longer continue. However other monitoring, upstream, on site and downstream will continue. Results will be compared to pre-project data to determine if the presence of the generating station in the river is having any adverse effects. If so, mitigation measures will be implemented.

## ABORIGINAL PARTICIPATION

Following are highlights of achievements in Aboriginal participation during the entire construction phase of the project including:

- Maintained over 37 percent of hires as Aboriginal since the start of construction.
- Expenditure of almost \$9.6 million during the past year on goods and services from Northern Manitoba Aboriginal businesses to total more than \$167 million since the project began
- Provided culturally appropriate, retention-support programs aimed at keeping Aboriginal workers employed on the project and ensuring sensitivity and respect for local culture throughout construction
- Employed a liaison officer to act as an employee representative on site and assist NCN citizens and others interested in employment at Wuskwatim
- Provided a shuttle-van service that ran from the site to Thompson and Nelson House to

accommodate workers without vehicles

- Conducted cross-cultural awareness workshops using NCN-trained facilitators with NCN Elders, bringing the total number of workshops to 108 including four supervisory workshops involving 1 574 workers since the start of construction
- Performed 40 ceremonies and sweats since the start of construction, including ten sweat lodge ceremonies and three pipe ceremonies. To respect local culture and traditions, site ceremonies were conducted at key milestones using NCN Spiritual/Traditional Citizens
- Involved Elders and community Citizens in the annual Monitoring Advisory Committee open house to share results of monitoring programs
- NCN coordinated five site tours during the fiscal year from Nelson House to the Wuskwatim site for NCN Citizens' interested in visiting the facility. A total of 15 tours for 235 Citizens were held in 2011 and 2012.

## PROJECT COMMUNICATIONS

Since the project's inception, Wuskwatim Power Limited Partnership has provided on-going project communications including:

- Maintaining the project website, [www.wuskwatim.ca](http://www.wuskwatim.ca), to provide comprehensive project information



throughout construction

- Regularly updated construction progress, schedule and employment statistics
- Website photo gallery updated several times each year and production and posting of an annual video summary of project progress prepared in English and Cree.

With construction complete, the website has been repurposed to focus on station operations, with most construction information maintained in a history and archive section

- Preparing and publishing annually this *Year in Review* report and a detailed *Monitoring Overview* report that highlights activities and findings of the environmental and socio-economic monitoring programs. Both reports are distributed to NCN Citizens on and off reserve and Cree audio summaries are available on CD
- Hosting an annual Monitoring Advisory Committee open house in Nelson House to provide Citizens with information, answer questions and engage in discussions about the monitoring programs. The open house was held January 16, 2013
- Periodically publishing the *Wuskwatim Implementation News* – a project update, which is produced by NCN and distributed to NCN Citizens on and off reserve.

## SAFETY

The accident frequency rate at the Wuskwatim site continued to be better than the Manitoba average. Safety-related items during the year included:

- A comprehensive site-specific safety orientation conducted for all employees
- One lost-time injury resulting in three days lost, which is a decrease in both lost-time injuries and days lost from the previous year.

## ■ OPERATIONS

With its first turbine generator (Unit 1) officially going on line at 5:28 p.m., Friday, June 22, 2012 CDT the 200-megawatt Wuskwatim generating station began operations 2 148 days after construction began August 6, 2006. This was followed at approximate two-month intervals by Unit 3 going online August 22 and Unit 2 on October 6.

Following is a summary of operations achievements during 2012-2013.

## STATION PERFORMANCE

Manitoba Hydro uses two main criteria, the unit availability factor and the unit forced-outage rate to measure generating station performance.

From the June start-up to March 31, the station demonstrated a unit availability factor

of 78.2 percent, which is a measure of when the unit is available to run when required. Wuskwatim's factor was lower than the 90 percent target during the commissioning period, however is expected to reach the target when commissioning is complete.

During that period, the station demonstrated a forced-outage rate of 0.5 percent; the target is less than one percent. Forced outage is a measure of when an electrical or mechanical problem develops that removes the unit from service.

## STAFFING

Unlike the hundreds of individuals required to build the generating station over its almost 6-year construction phase, the generating station itself requires only 22 positions to operate the facility (not including support staff for catering, housekeeping, etc.). Operations positions include both technical/specialized jobs and non-technical positions.

Some examples of the technical and specialized jobs are: Plant Manager, Plant Office Supervisor and Work Planner.

Examples of the non-technical positions include: a Community Liaison Officer, Administrative Representatives and Utility Workers.





### Work Cycle

Considering Wuskwatim is at a remote location where most employees live some distance away and live on site during their shifts, Wuskwatim operates on an 8/6 work cycle – 8 days on shift, 6 days off.

### NCN Employment

The station now has a staff complement of 22, which includes four NCN Citizens working in technical and office positions. Initial operations activities have focused on documenting station equipment and developing work management systems and procedures.

### NCN DIRECT CONTRACT OPPORTUNITIES

During Wuskwatim construction, NCN companies or joint ventures were awarded 11 direct-negotiated contracts for services valued at about \$147 million by the time construction was completed. Now that the station is operating, a new contract opportunity has been identified for an NCN business that includes road maintenance, staff house catering/housekeeping services, security services (at the access road), custodial services (plant administration area) and landscape maintenance/grass-cutting.

### TRANSITION PROCESS FROM CONSTRUCTION TO OPERATIONS

As part of the transition from construction to operations, the following required activities are underway:

- Establishing the station's Operating Procedure Manuals, which began in October 2011
- Implementing the Work Management System which includes: recording all equipment installed on site, establishing maintenance requirements and draft procedures, and determining maintenance frequencies and scheduling of work
- Implementing document controls
- Implementing the station's Safety and Environmental Management Systems.

### ENVIRONMENTAL MONITORING PROGRAM

As part of Wuskwatim's federal and provincial licensing requirements, a rigorous environmental-monitoring program has been in place since before construction began. This will continue now that the station is operating to determine if the station will have any long-term environmental impacts upstream or downstream, on lands along the access road and at the station site.

Wuskwatim Operations and Environmental Licensing and Protection are ensuring a smooth transition of monitoring activities related to:

- Aquatic-effects Monitoring Plan
- Terrestrial-effects Monitoring Plan
- Physical-environment Monitoring Plan
- Socio-economic Monitoring Plan
- Resource-use Monitoring Plan
- Ethinewin (Traditional Knowledge).

The Monitoring Advisory Committee, which has been active during construction, will continue to meet during operations.

### SAFETY

Manitoba Hydro prepares monthly safety reports that report on specific safety incidents and on safety-related activities associated with:

- Implementing all components of Manitoba Hydro Safety Management Systems
- Recruiting and training operations staff for the Wuskwatim Fire Crew
- Conducting activities and initiatives such as noise-level monitoring and fire prevention to ensure the station provides a safe working environment





- Conducting safety inspections and identifying inventory requirements.

No lost-time incidents have occurred among operations staff since operations began.

#### ACCESS MANAGEMENT PLAN

Throughout construction, an access management plan was in place to monitor and control access to the area. Now that the station is operating, Manitoba Hydro and NCN have developed a long-term Operations Access Management Plan and have issued a new brochure, *Access Road Restrictions*, which is available for download on the [wuskwatim.ca](http://wuskwatim.ca) website.

#### PROPOSED STAFF HOUSE

Most remote generating stations provide a dedicated staff house to provide employees

with comfortable accommodations and meals while away from home on their job rotations.

Until a staff house is constructed at Wuskwatim, part of the original construction camp has been retained and reconfigured to provide the necessary accommodation and catering services.

Plans to construct a staff house for the Wuskwatim station are underway. Final design plans and drawings were completed in March 2013.

The staff house will accommodate regular operations staff, support staff (catering and housekeeping) and others such as maintenance staff that may need to be periodically at the site. It will also include required meeting facilities and incorporate the existing recreation building that was part of the original construction camp.





# 2012-2013 Financial Report



# Financial Report

## STATEMENT OF LOSS (For the year ended March 31)

(in millions of dollars)	2013	2012
<b>Revenue</b>	25	-
<b>Expenses</b>		
Operating and administrative	5	-
Finance expense	41	-
Depreciation	12	-
Amortization	4	-
Water rentals	3	-
	65	-
<b>Net Loss</b>	(40)	-

## Partnership Assets, Liabilities and Equity (as at March 31)

(in millions of dollars)	2013	2012
<b>Assets</b>		
Property, Plant and Equipment		
In-service (net)	1 313	-
Construction in progress	1	1 259
	1 314	1 259
Intangible Assets		
In-service (net)	299	-
Work in progress	-	296
Other assets	9	3
	1 622	1 558
<b>Liabilities and Equity</b>		
Long-term debt	1 288	1 201
Other liabilities	47	54
Partners' capital	287	303
	1 622	1 558





### Partners' Capital (as at March 31, 2013)

	Units	%	(net) Capital (in millions of dollars)
General Partner <sup>1</sup>	32.675	0.01	-
Manitoba Hydro	218 889.825	66.99	192
Taskinigahp Power Corporation	107 827.500	33.00	95
	326 750.000	100.00	287

### Operating, Financing and Investing Activities (for the year ended March 31)

(in millions of dollars)	2013	2012
<b>Operating Activities</b>		
Cash receipts from customers	20	-
Cash paid to suppliers	(30)	-
Interest paid	(41)	-
Cash used for operating activities	(51)	-
<b>Financing Activities</b>		
Proceeds from issue of units of WPLP	24	39
Net proceeds from long-term debt	87	143
Cash provided by financing activities	111	182
<b>Investing Activities</b>		
Additions to property, plant and equipment	(56)	(156)
Additions to intangible assets	(4)	(27)
Other	-	1
Cash used for investing activities	(60)	(182)

<sup>1</sup> The business affairs of WPLP are carried out by a general partner (GP), 5022649 Manitoba Ltd., a wholly-owned Manitoba Hydro subsidiary.



**WUSKWATIM**  
Power Limited Partnership

**[www.wuskwatim.ca](http://www.wuskwatim.ca)**

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